

IN THE CLAIMS:

Please amend Claim 1, and add new Claim 22, as shown below. The claims, as pending in the subject application, read as follows:

1. (Currently Amended) A focus detecting device for use in an image pickup optical unit, comprising:

first photoelectric conversion unit which performs photoelectric conversion of a light beam emitted from a first pupil area of said image pickup optical unit;

second photoelectric conversion unit which performs photoelectric conversion of a light beam emitted from a second pupil area of said image pickup optical unit, said second pupil area being different from said first pupil area;

light blocking unit having a portion for blocking light, a first opening for allowing passage of a portion of light in said first pupil area, and a second opening for allowing passage of a portion of light in said second pupil area; and

detecting unit which detects a focus condition of said image pickup optical unit on the basis of photoelectric conversion outputs of said first photoelectric conversion unit and said second photoelectric conversion ~~means~~ unit,

wherein said light blocking unit is removable from an optical path of said image pickup optical unit.

2. (Cancelled)

3. (Previously Presented) A device according to claim 1, wherein said first photoelectric conversion unit has a plurality of photoelectric conversion elements while said second photoelectric conversion unit has a plurality of photoelectric conversion elements each of which is adjacent to each of said plurality of photoelectric conversion elements of said first photoelectric conversion unit, with a microlens being located in front

of said plurality of photoelectric conversion elements of said first photoelectric conversion unit and said plurality of photoelectric conversion elements of said second photoelectric conversion unit.

4. (Previously Presented) A device according to claim 3, wherein a color filter is placed in front of said plurality of photoelectric conversion elements of said first photoelectric conversion unit and said plurality of photoelectric conversion elements of said second photoelectric conversion unit.

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5. (Previously Presented) A device according to claim 1, wherein, for the focus detection by said detecting unit, said light blocking unit is set in the optical path of said image pickup optical unit.

6. (Previously Presented) A device according to claim 1, further comprising a signal processing circuit for producing an image signal by adding a photoelectric conversion signal from said first photoelectric conversion unit and a photoelectric conversion signal from said second photoelectric conversion unit.

7. (Previously Presented) A device according to claim 1, wherein said first and second openings have the same size and shape.


8. (Previously Presented) A device according to claim 7, wherein said first and second openings have an elliptical shape.

9. (Previously Presented) A device according to claim 1, wherein said light blocking unit is part of a rotatable diaphragm.

10. (Previously Presented) A device according to claim 9, wherein said light blocking unit is removed from the optical path of said image pickup optical unit by rotating said rotatable diaphragm.

11. (Previously Presented) A device according to claim 9, wherein said rotatable diaphragm has at least one opening in addition to said first and second openings, for allowing passage of light.

12. (Previously Presented) A device according to claim 11, wherein, for the focus detection by said detecting unit, said light blocking unit is set in the optical path of said image pickup optical unit.



13. (Previously Presented) A device according to claim 11, wherein an opening of said at least one opening is set in the optical path of said image pickup optical unit by rotating said rotatable diaphragm.

14. (Previously Presented) A device according to claim 11, wherein said at least one opening comprises a plurality of openings each having a different size.

15. (Previously Presented) A device according to claim 14, wherein one of said plurality of openings is set in the optical path of said image pickup optical unit by rotating said rotatable diaphragm.

16. (Previously Presented) A device according to claim 14, wherein, for the focus detection by said detecting unit, said light blocking unit is set in the optical path of said image pickup optical unit.

17. (Previously Presented) A device according to claim 9, wherein said rotatable diaphragm comprises a plurality of pairs of openings for allowing passage of light, with said first and second openings being one of said plurality of pairs of openings, and wherein said rotatable diaphragm is used in conjunction with another rotatable diaphragm having a plurality of openings for allowing passage of light, each one of said plurality of openings having a different size.

18. (Previously Presented) A device according to claim 17, wherein one of said rotatable diaphragms is closer to an image plane side of said image pickup optical unit than the other of said rotatable diaphragms.

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19. (Previously Presented) A device according to claim 17, wherein, for the focus detection by said detecting unit, said light blocking unit is set in the optical path of said image pickup optical unit.

20. (Previously Presented) A device according to claim 14, wherein one of said plurality of openings is set in the optical path of said image pickup optical unit by rotating said rotatable diaphragm, wherein, for the focus detection by said detecting unit, said light blocking unit is set in the optical path of said image pickup optical unit, wherein said one of said plurality of openings and said light blocking unit are not set in the optical path of said image pickup optical unit at the same time, and wherein said light blocking unit is removed from the optical path of said image pickup optical unit by rotating said rotatable diaphragm.

21. (Previously Presented) A device according to claim 3, wherein said microlens projects a projection image on said plurality of photoelectric conversion elements of said first photoelectric conversion unit and said plurality of photoelectric

conversion elements of said second photoelectric conversion unit, and wherein said projection image is larger than an entire exit pupil of said image pickup optical unit.

22. (New) A focus detecting device for use in an image pickup optical unit, comprising:

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first photoelectric conversion means for performing photoelectric conversion of a light beam emitted from a first pupil area of said image pickup optical unit;

second photoelectric conversion means for performing photoelectric conversion of a light beam emitted from a second pupil area of said image pickup optical unit, said second pupil area being different from said first pupil area;

light blocking means having a portion for blocking light, a first opening for allowing passage of a portion of light in said first pupil area, and a second opening for allowing passage of a portion of light in said second pupil area; and

detecting means for detecting a focus condition of said image pickup optical unit on the basis of photoelectric conversion outputs of said first photoelectric conversion means and said second photoelectric conversion means,

wherein said light blocking means is removable from an optical path of said image pickup optical unit.
